

REMARKS

Claim 3 has been amended to require the claimed copolymer to have emulsifying activity. It has also been amended to require a specific z/w ratio. Moreover, new claims 35-37 (which require specific z/w ratios) have been added. Support for these amendments and new claims exists throughout the present specification, including page 3, lines 8-9.

Claims 3, 4, 10-12, 18, 19 and 22-37 are currently pending.

Initially, Applicants would like to thank Examiner Peng for the courteous and helpful Interview conducted January 19, 2006, which materially advanced prosecution in this case. During the Interview, the Examiner stated that the claims as currently written cover copolymers having the required monomers in any order. Applicants concur with this interpretation.

The claimed copolymers can be viewed as alkoxylation-modified versions of polysilicone-polyamide ("PSPA") type copolymers. Modifying PSPA-type copolymers by adding sufficient alkoxylation groups to them provides the modified PSPA-type copolymers with emulsification properties. Such alkoxylation-modified, emulsifying versions of PSPA-type copolymers are neither taught nor suggested by the prior art.

This difference between the claimed polymers and the prior art polymers is explained in Inventor Lu's Rule 132 declaration submitted October 11, 2005. The primary difference between the polymers of the present invention and those disclosed in the cited references is that the polymers in the present application possess emulsifying activity: they contain sufficient alkoxylation to provide the polymers with emulsifying activity. (Lu's Rule 132 declaration, par. 3). In contrast, the polymers in the cited patents and patent applications

applied against the claims do not possess emulsifying activity. (Lu's Rule 132 declaration, par. 3).

The claims have been amended in two ways to better reflect this difference. First, the claims have been amended to require that the claimed copolymers possess emulsifying activity. Because the prior art polymers do not have emulsification properties, they cannot teach or suggest the claimed copolymers.

Second, the claims have been amended to require specific z/w ratios. Because "w" reflects how much alkoxylation is present in the claimed copolymers, these ratios require a degree of alkoxylation in the claimed copolymers which is neither taught nor suggested by the cited art.

Each of these claim amendments, by itself, is sufficient to distinguish the claimed copolymers from the cited art. Together, these claim amendments clearly distinguish the claimed copolymers from the cited art.

The Office Action rejected the pending claims under 35 U.S.C. § 102 as anticipated by and/or under 35 U.S.C. § 103 as obvious over, U.S. patent 4,822,852 ("Wittmann").

The Office Action also rejected the pending claims under 35 U.S.C. § 102 as anticipated by, and under the judicially created doctrine of obviousness-type double patenting as obvious over, several patents and patent applications owned by the assignee of the present application. All of these patents/patent applications disclose the same type of polymer (a PSPA-type copolymer). Because all of these rejections involve the same issue (that is, whether the disclosed PSPA-type copolymer anticipates or renders obvious the claimed alkoxylated, emulsifying copolymers), these rejections will be discussed together.

Regarding Wittmann, Wittmann's polymers differ structurally from the claimed copolymers. For example, the claimed copolymers require an alkyl group between the amide groups in the []_y block. In contrast, to attempt to achieve a similar amide/alkyl group/amide linkage in Wittmann's polymers, Wittmann's "Z" groups would have to be joined together. However, given that Wittmann's definition of "Z" does not include an alkyl group (see, col. 3, lines 24-29), Wittmann's polymers cannot contain the []_y block required by the claimed copolymers. For this reason alone Wittmann neither teaches nor suggests the claimed copolymers.

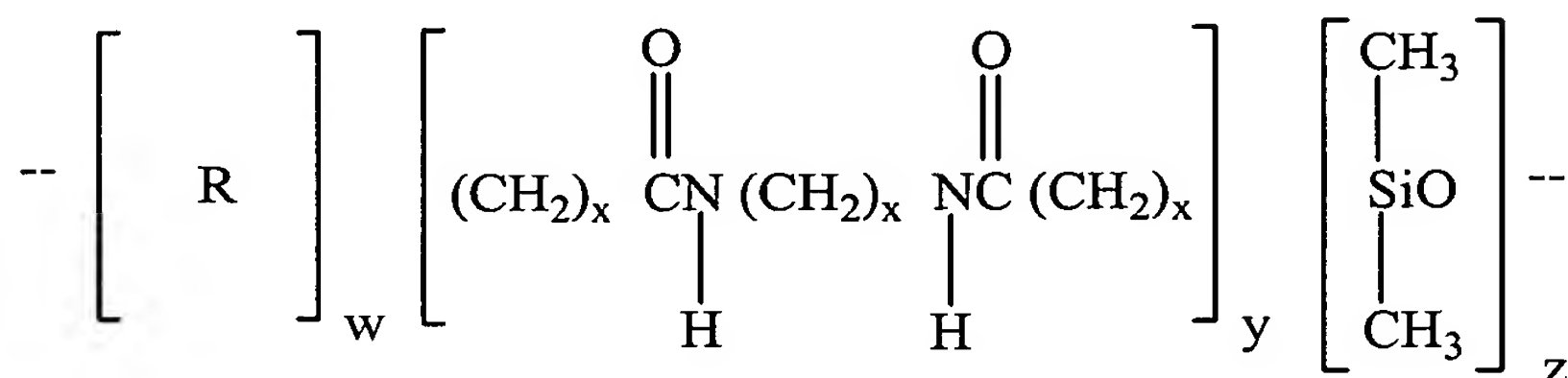
Furthermore, Wittmann neither teaches nor suggests that his copolymers possess sufficient alkoxylation to provide his polymers with emulsifying properties, or that the required []_z and []_w blocks are present, let alone present in the required ratios.

For all of these reasons Wittmann neither teaches nor suggests the claimed invention.

Regarding the remaining references which disclose PSPA-type copolymers, these references neither teach nor suggest providing PSPA-type copolymers with sufficient alkoxylation to (1) provide the polymers with emulsifying properties; or (2) satisfy the required z/w ratios.

Initially, Applicants note that Inventor Lu has worked with prior art PSPA-type polymers, an example of which is Nylon-611/dimethicone copolymer. (Lu's Rule 132 declaration, par. 6). It has been Lu's experience that such polymers do not have emulsifying activity. (Lu's Rule 132 declaration, par. 6). This difference alone is sufficient to distinguish the claimed emulsifying copolymers from the prior art non-emulsifying polymers.

Furthermore, as explained in Inventor Lu's Rule 132 declaration, the claimed polymers have the following structure:



(Lu's Rule 132 declaration, par. 4). The "R" group in these polymers is an oxyalkylene group. (Lu's Rule 132 declaration, par. 4). This oxyalkylene group provides the claimed polymers with emulsifying activity. (Lu's Rule 132 declaration, par. 4). Without the "R" group, the claimed polymers do not possess emulsifying activity. (Lu's Rule 132 declaration, par. 4). This oxyalkylene group "R" is not part of the $\left[\right]_z$ or $\left[\right]_y$ blocks of the claimed polymers. (Lu's Rule 132 declaration, par. 4).

In contrast, the polymers in the cited references do not contain an equivalent structure to the claimed "R" groups: these polymers consist only of $\left[\right]_z$ and $\left[\right]_y$ blocks. (Lu's Rule 132 declaration, par. 5). For example, in U.S. patent application publication no. 2004/0001799 ("Lu"), the polymer of formula (I) (paragraph [0037]) does not contain the required "R" or oxyalkylene group. (Lu's Rule 132 declaration, par. 5). In formula (I), "G" corresponds to the "NHCO" groups in the claimed copolymers (see, Lu at par. [0049]), "X" corresponds to the " $(\text{CH}_2)_x$ " groups terminal to the "NHCO" groups in the claimed copolymers (see, Lu at par. [0043]), and "Y" corresponds to the " $(\text{CH}_2)_x$ " group between the "NHCO" groups in the claimed copolymers (see, Lu at pars. [0044-45]). (Lu's Rule 132 declaration, par. 5). Thus, "G," "X" and "Y" all correspond to elements found within the $\left[\right]_y$ block in the claimed polymers. (Lu's Rule 132 declaration, par. 5). That the "X" group may

contain oxygen in the disclosed polymers (as asserted by the Office Action) is of no import: the “X” group is within the []_y block, meaning that no structure in the disclosed polymers corresponds to the “R” group of the claimed polymers. (Lu’s Rule 132 declaration, par. 5).

All of the cited patents and patent applications disclose polymers like the formula (I) polymers. (Lu’s Rule 132 declaration, par. 6). No structure or variable in such polymers corresponds to the required “R” or oxyalkylene group in the claimed copolymers. (Lu’s Rule 132 declaration, par. 6).

Significantly, because the polymers in the cited references do not contain an “R” group (meaning that “w” is zero in the claimed formulae), the prior art polymers cannot satisfy the required z/w ratios which are all positive numbers.

This difference between the claimed polymers and the prior art polymers is further highlighted by the fact that the formula (I) polymers can be used as starting materials and combined with oxyalkylene groups to produce the claimed copolymers. (See, the present application at page 5, line 25 et seq.). (Lu’s Rule 132 declaration, par. 6). Because the formula (I) polymers can be used as starting materials and combined with oxyalkylene groups to produce the claimed copolymers, it follows that the formula (I) polymers do not contain the claimed “R” or oxyalkylene groups: if the formula (I) polymers and the claimed polymers were truly the same, no need would exist to modify the formula (I) polymers by adding oxyalkylene groups to them to obtain the claimed polymers. (Lu’s Rule 132 declaration, par. 6).

Clearly, the disclosed polymers are different from the claimed polymers: the disclosed polymers differ from the claimed polymers both structurally (they do not contain an “R” group like the claimed polymers) and functionally (they do not possess emulsifying

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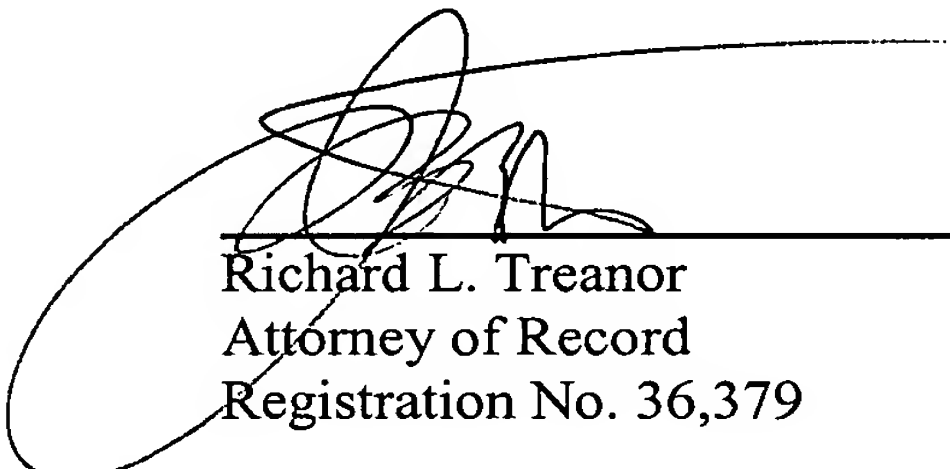
activity). No teaching, suggestion or motivation exists to fundamentally change the structure and function of the disclosed polymers in such a way to yield the claimed polymers.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 102 as well as the double patenting rejections.

Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

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